



# UNITED STATES PATENT AND TRADEMARK OFFICE

*cel*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,656	02/09/2004	Yoshihisa Yamashita	10873.1397US01	1445
23552	7590	12/02/2005	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			DINH, TUAN T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/775,656

Applicant(s)

YAMASHITA ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02/09/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>04/26/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, lines 3, and 13-14, it is confuse because in claim 1, line 3, the applicant does define the insulating base material containing resin but not a thermosetting resin or a glass epoxy resin, and lines 12-14, the applicant recites "wherein...a glass transition temperature Tg2 of the insulating base material" which is not defined from line 3, please, correct.

Examiner assumes that, the insulating base material of a circuit substrate having a material, which is different than the material of the insulating layer.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2841

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakatani et al. (U.S. Patent 6,038,133).

As to claim 1, Nakatani et al. discloses an electronic component built-in module as show in figures 1-6 comprising:

a pair of opposed circuit substrates (401a, c, see figure 4), each of which includes a wiring pattern (402) and an insulating base material containing a resin (401);

an insulating layer (element 401 of insulating substrate 401b) that is placed between the pair of circuit substrates and contains an inorganic filler and a resin composition containing a thermosetting resin (see column 11, lines 24-25);

at least one electronic component (403) that is embedded in the insulating layer (401a); and an inner via (404) that is provided in the insulating layer (401a) so as to make an electrical connection between wiring patterns (402) provided on different circuit substrates (401a, 401c),

wherein a glass transition temperature  $Tg_1$  of the resin composition contained in the insulating layer (401b) and a glass transition temperature  $Tg_2$  of the insulating base material (401a; 401c) included in each of the circuit substrates satisfy a relationship  $Tg_1 > Tg_2$  (because the material being used in the insulating layer having a  $Tg$  greater than a  $Tg$  of the insulating base material).

As to claim 2, Nakatani et al. discloses a difference between the glass transition temperature Tg1 and the glass transition temperature Tg2 is at least 10C.

As to claim 3, Nakatani et al. discloses a plurality of the insulating layers are provided.

As to claim 4, Nakatani et al. discloses the insulating layer (401a) containing the inorganic filler in an amount of not less than 70% by weight and not more than 95% by weight, see column 11, lines 26-27.

As to claim 5, Nakatani et al. discloses the inorganic filler contains at least one selected from the group consisting of: Al<sub>2</sub>O<sub>3</sub>, MgO, BN, SiO<sub>2</sub>, SiC, Si<sub>3</sub>N<sub>4</sub>, and AlN, see column 11, lines 24-25.

As to claim 6, Nakatani et al. discloses the thermosetting resin containing at least one selected from the group consisting of: an epoxy resin, a phenol resin, and an isocyanate resin, see column 11, lines 30-31.

As to claim 7, Nakatani et al. discloses the at least one electronic component comprises a semiconductor bare chip, see column 11, lines 40-47.

As to claim 8, Nakatani discloses the inner via (404) is formed from a conductive resin composition, see column 11, lines 53-63.

As to claims 9-13, Nakatani et al. discloses all of the limitations of method of manufacturing an electronic component built-in module as shown in figures 1-6, and claims 1-8 does disclose all of the limitations of the final product of claimed language.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamaji et al., Hayashi, and Komatsu et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan Dinh  
November 21, 2005.